

## REMARKS

### The Section 112 Rejections and Objections

Applicant has amended the claims and submits that the rejections and objections have been overcome. Withdrawal of the rejections and objections is requested.

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### The Section 103 Rejection over Band and Niwa

Claims 1-2, 5-6, 9-12, 14-17, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bandini et al. (hereinafter "Band", US Patent Publication 2005/0081059 A1) in view of Niwa et al. (hereinafter "Niwa", US Patent 6,363,412 B1).

10 The Office Action noted that:

As per claim 1, Band discloses a method for reducing the cost of sending messages over an intermittent network of computing devices via one or more communication channels, the method comprising the steps of:

15 (a) creating a first message on a first device, the message intended to be sent to a second device over the network via at least one channel (paragraphs [0025-0027], Band teaches users of user stations sending emails via email server to recipients over

local and public networks);  
20 (b) applying a first policy containing one or more rules to determine whether to send the first message to the second device, each rule being a function of one or more messaging attributes of messages, channels or the system environment (paragraphs [0011, 0028, 0035, 0043], Band teaches an email relay used to apply filtering policies to incoming electronic messages to prevent certain messages such as SPAM from being sent to recipients. The filters are applied to various  
25 parts of the message);

(c) dynamically updating the first policy by sending a second message to the first device, the second message being a system message that results in the addition, deletion or other modification of the rules contained in the policy (paragraphs [0016-0018, 0045, 0053], Band teaches providing updates to the policy to maintain  
30 the most current information such as the latest virus while causing modifications to current policies).

Band does not explicitly disclose:

35 • To reduce the cost of sending messages over the intermittent network of computing devices.

However, in an analogous art, Niwa teaches the source terminal sends only a mail header identifying the message source, the destination, and other attribute information to the server. Based on this information, a data recipient determines  
40 whether or not he/she wants to receive the message. Thus, a data recipient can

reduce unnecessary communication cost (Abstract, column 1, lines 50-60, column 2, lines 46-52, column 3, lines 7-14).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Niwa's reducing the cost of sending messages in Band's method enabling the recipient to select only necessary mail information to be received and may pay a reduced fee as compared to conventional systems.

Applicants respectfully traverse the rejection. Before responding to the rejection, Applicant takes the opportunity to address the problem being solved to put the invention in context. The invention enables computing devices (including devices acting as clients, servers or both) using intermittent networks to have the same quality of service as traditional LAN-based transactional systems but doing so in a much more efficient manner. It also addresses the challenges of using multiple networks that have different costs associated with them. In order to achieve these objectives, one embodiment is to use current distributed transactional processing theories and rework the sequence diagrams so that each step of the process is self contained and does not depend on holding on to a constantly connected network in order to receive the acknowledgements. The use of asynchronous messaging with the once-and-only-once policy is the underlying infrastructure for the system. Therefore, a device using an intermittent network can send a message and once it is assured that it has been received on the other end, it does not need to keep the connection open. The method involves the assignment of a queue for each user/device, a queue for each server application, and a set of system queues for audit and exemption handling. By automatically creating these queues, the system makes it very simple and straightforward for any entity to create transactional applications without a lot of knowledge about messaging or transactions.

Band relates to a relay that provides message filtering services to an e-mail network. The relay monitors incoming communication and intercepts e-mail messages. The relay applies a policy to received messages to determine whether a message should be delayed. The relay applies a policy to delayed messages by reference to a delayed processing event which triggers the delayed processing. The relay updates policy data in accordance by employing an update module. The relay then restricts the delivery of messages having attributes close to those of harmful data as provided by a policy database.

Niwa relates to a communication method for a wireless transmission network having a plurality of terminals and a central server, disclosed in the context of an E-mail system. The source terminal sends only a mail header identifying the message source, the destination and other attribute information to the server. The destination terminal receives the digital data directly from the source terminal when desired after first downloading the mail header from the server. Thus, a data recipient can reduce unnecessary communication cost and storage resources in the server and in the system, can be saved.

Here, neither Band nor Niwa discloses a multichannel communication system that includes applying a first policy to reduce the cost of sending messages over the intermittent network of computing devices, the first policy containing one or more rules to determine whether to send the first message to the second device, each rule being a function of one or more messaging attributes of messages, channels or the system environment.

Moreover, Band fails to show dynamically updating the first policy by sending a second message to the first device, the second message being a system message that

results in the addition, deletion or other modification of the rules contained in the policy  
to reduce the cost of sending messages over the intermittent network of computing  
devices.

In contrast, Band address spam problems and has nothing to do with an efficient  
5 transmission of data in an intermittent medium such as wireless medium. Band provides  
a delivery delay and the delayed data packages are maintained in a quarantine storage  
area until a policy is applied to the data packages. The application of the Band policy to  
the delayed data packages is determined by reference to a delay processing module.  
Band is not about reducing the cost of sending messages over an intermittent network. In  
10 fact, Band points to the opposite direction, as spamming prefers networks that are  
continuously connected rather than intermittently connected.

Similarly, Niwa relates to sending emails and this is done by in a wireless data  
transfer method for sending/receiving digital data between terminals by a center-machine  
by using a wireless transmission network. The Niwa method comprising the steps of  
15 sending a mail header including attribute information of the digital data from a source  
terminal to the center-machine and receiving the digital data by a destination terminal  
from the source terminal when the digital data is determined to be necessary by referring  
to the mail header in the center-machine is provided.

Niwa also fails to show the first policy containing one or more rules to determine  
20 whether to send the first message to the second device, each rule being a function of one  
or more messaging attributes of messages, channels or the system environment.

In contrast, page 30 of the instant application differentiates the present system  
from the Band and Niwa system in that:

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the assumption within a LAN is that there is only one network and that the cost of using it is essentially free. There has not been a requirement to choose among the use of multiple networks. Nor has there been a need to carefully consider the cost of using the network, eg. how many bytes are being sent or how long it is being used.

The preferred embodiment of the present invention handles multiple channels of communication while taking into consideration the cost of the network. Niwa and Band fails to show such consideration as they are essentially one channel.

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To summarize, with respect to the rejection of claim 1, in the absence of any teachings about a multi-channel system that applies a first policy to reduce the cost of sending messages over the intermittent network of computing devices, the first policy containing one or more rules to determine whether to send the first message to the second device, each rule being a function of one or more messaging attributes of messages, channels or the system environment or dynamically updating the first policy by sending a second message to the first device, the second message being a system message that results in the addition, deletion or other modification of the rules contained in the policy to reduce the cost of sending messages over the intermittent network of computing devices, neither Band nor Band can render claim 1 and those dependent therefrom obvious. Further, the suggestion to combine the two to arrive at the claimed invention arises from hindsight as taught by the instant application. Per MPEP 706.02(j): Contents of a 35 U.S.C. 103 Rejection:

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To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or

suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP Section 2143 - Section 2143.03 for decisions pertinent to each of these criteria.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). See MPEP Section 2144 - Section 2144.09 for examples of reasoning supporting obviousness rejections.

As discussed above, there is no suggestion to modify Band to arrive at the invention as claimed. There is no reasonable expectation of success since the needs of spam control differs from the needs of sharing digital image in Morris. Finally, Morris or Band does not teach or suggest all the claim limitations in the independent claims as well as each dependent claims. Since the teaching or suggestion to make the claimed combination and the reasonable expectation of success is not found in Morris or Band, there is an inference that it came from Applicants' disclosure. Thus, neither Morris nor Band can render obvious the independent claim and those claims dependent therefrom. Moreover, they are allowable since neither Band nor Morris shows the specifics as recited in the dependent claims.

Applicant points out that the Examiner bears the initial burden of factually establishing and supporting any *prima facie* conclusion of obviousness. *In re Rinehart*, 189 U.S.P.Q. 143 (CCPA 1976); M.P.E.P. § 2142. If the Examiner does not produce a *prima facie* case, the Applicant is under no obligation to submit evidence of nonobviousness. *Id.* In the instant case, the Examiner has not pointed to any evidence in

Niwa, or how knowledge of those skilled in the art, provide a suggestion or motivation to modify the reference Band teaching so as to produce the claimed invention of (a) creating a first message on a first device, the message intended to be sent to a second device over the network via at least one channel; (b) applying a first policy to reduce the cost of sending messages over the intermittent network of computing devices, the first policy containing one or more rules to determine whether to send the first message to the second device, each rule being a function of one or more messaging attributes of messages, channels or the system environment; and (c) dynamically updating the first policy by sending a second message to the first device, the second message being a system message that results in the addition, deletion or other modification of the rules contained in the policy to reduce the cost of sending messages over the intermittent network of computing devices. See *In re Zurko*, 59 U.S.P.Q.2d 1693 (Fed. Cir. 2001) ([I]n a determination of patentability .... the Board cannot simply reach conclusions based on its understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings).

Under *Vaeck*, absent any evidence of a cited suggestion or reasonable motivation in the Niwa reference, or knowledge of those skilled in the art, for modifying Band to arrive at claims 1 and 21 and claims that depend therefrom, *prima facie* obviousness of these claims has not been established. As such, it is respectfully requested that the § 103(a) rejection of all claims be withdrawn and the claims be allowed.

The Section 103 Rejection over Band, Niwa and Wing

Claims 7-8,21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bandini et al. (hereinafter "Band", US Patent Publication 2005/0081059 A1) in view of Niwa et al. (hereinafter "Niwa", US Patent 6,363,412 B1) and in further view of Wing (US Patent 6,650,440 B1).

5 Wing relates to a communication system for transmission of facsimile (fax) information using an email message from a sending fax device used by a sending fax user to a receiving fax device used by a receiving fix user through at least one mailer device including a sending gateway device coupled to the sending fax device for causing transfer of a fax message received from the fax device. The sending gateway device further  
10 attaches the transferred fax message to an email message. At least one of the mailer device is coupled to a receiving gateway device and is further coupled to the sending gateway device for receiving the email message and transferring the same to the receiving gateway device. The receiving gateway device is coupled to the receiving fax device for detaching the fax information from the transferred email message and coupling  
15 the detached fax information, through a receiving communication link, to the receiving fax device for use by the receiving fax user. The sending gateway device receives a particular fax message and, prepares an email message having attached thereto the particular fax message and transmits the prepared email message along with a first and a second confirmation requests to the receiving gateway device through the mailer device.  
20 The first confirmation request corresponds to a first response and the second confirmation request corresponding to a second response. Upon receipt of a first response to the first confirmation request, the sending gateway device awaits a predetermined length of time for a response to the second confirmation request and upon receipt of a response to the



second confirmation request the sending gateway device places an outcall to the sending, fax device. In accordance with the teachings of the present invention, multiple outcalls for confirming the status of the fax message transmission is avoided thereby reducing costs to the sending fax user and further reducing the likelihood of confusion and logistic problems to the sending fax user.

First, Band and Niwa fails to render claim 1 obvious and the addition of Wing would not render claim 1 or claims dependent there from obvious. Band and Niwa does not show a multi-channel system with the specifics of claim 1.

Second, one skilled in the art would not combine a fax transmission system using email message with Band and Niwa to arrive at the present invention since such combinations would not be functional. Fax data is voluminous, while the present invention works with an intermittent network of computing devices via multiple communication channels. The transmission of fax would not work with these devices over multiple channels of an unreliable network. Such fax would unlikely reach the destination over the intermittent network with multiple channels. Hence, claims 7-8 and 21 are patentable over Band, Niwa and Wing.

In sum, neither Band, Niwa, nor Wing can render claims 7-8 and 21 obvious. Withdrawal of the rejection is requested.

#### The Section 103 Rejection over Band, Niwa and Shoaib

Claims 12-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bandini et al. (hereinafter "Band", US Patent Publication 2005/0081059 A1) in view of Niwa et al. (hereinafter "Niwa", US Patent 6,363,412 B1) and in further view of Shoaib et al. (hereinafter "Shoaib", US Patent Publication 2004/0205373 A1).

Shoaib relates to a method of dynamically switching among a plurality of fault tolerance schemes is provided. The fault tolerance schemes are associated with a fault tolerance mechanism that executes in a distributed system. The method comprises obtaining a wait time of at least one user interface event occurring in the distributed system. The wait time includes at least one of a communications time, a service time and a fault tolerance time. The method further comprises determining whether a mean of the wait time is greater than a predetermined mean wait time threshold. The method also comprises determining whether the communications time, the service time and the fault tolerance time are mutually independent when the mean of the wait time is greater than the predetermined mean wait time threshold. In addition, the method comprises determining whether the mean of the wait time can be improved by reducing a mean of the fault tolerance time when the communications time, the service time and the fault tolerance time are mutually independent. The method also comprises switching from a first fault tolerance scheme to a second fault tolerance scheme when the wait time can be improved by reducing the mean of the fault tolerance time.

Applicant submits that Band and Niwa cannot render independent claim 1 obvious. Further, claims that depend from the independent claims are also patentable. Hence, even with Shoaib, claims 12-13 are patentable for this reason.

Moreover, Shoaib relates to a user interface event in a distributed system. One skilled in the art would not have looked to Shoaib because it is in a different field. Moreover, the combination with Shoaib would be non-functional. The result of the combination would be a relay that provides message filtering services for faxes to an e-mail network with a user interface in a distributed system. The result of the combination

would not be the claimed method for reducing the cost of sending messages over an intermittent network of computing devices via one or more communication channels, the method comprising:

- 5           (a)     creating a first message on a first device, the message intended to be sent to a second device over the network via at least one channel;
- (b)     applying a first policy to reduce the cost of sending messages over the intermittent network of computing devices, the first policy containing one  
10           or more rules to determine whether to send the first message to the second device, each rule being a function of one or more messaging attributes of messages, channels or the system environment; and
- (c)     dynamically updating the first policy by sending a second message to the  
15           first device, the second message being a system message that results in the addition, deletion or other modification of the rules contained in the policy to reduce the cost of sending messages over the intermittent network of computing devices.

Moreover, such combination would not have the specifics where the server  
20   initiated push comprises one of: modem signaling, http listening, short messaging system (SMS), polling using **an efficient decaying algorithm**. Additionally, the combination would not allow a transaction to be achieved between a client and a server by breaking up a transmission sequence such that the client does not have to wait until the transaction is completed before relinquishing the network connection.

25           In sum, neither Band, Niwa, nor Shoaib can render claims 12-13 obvious.

Withdrawal of the rejection is requested.

CONCLUSION

Applicant submits that all claims in the case, as amended, are in condition for allowance. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 408-528-7490.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Bao Tran", with a long horizontal flourish extending to the right.

Bao Tran  
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